

What is claimed is:

1. An arrangement for providing a communication interface between a hybrid fiber coaxial (HFC) network and an in-home communications network, the arrangement comprising

a home networking gateway disposed to communicate with the HFC network and couple communications to the in-home network, the home networking gateway including a translator for mapping between HFC-based communication protocols and in-home network-based protocols, said home networking gateway for performing device discovery and network management of said in-home network;

a device database coupled to said home networking gateway and comprising configuration files associated with various in-home telecommunication devices;

a service level agreement database coupled to said home networking gateway and comprising a listing of authorized services for the in-home network, class of service information and quality of service information.

2. The arrangement as defined in claim 1 wherein the home networking gateway comprises

a home network interface connection module for supporting a pre-defined in-home communication protocol;

a voice telephony service connection module, coupled to the home network interface connection module, for providing communication with in-home telephony devices;

a data service connection module for providing communication with in-home data-based devices;

a cable modem connection module for providing communication with the HFC network;

a communication bus coupled to each of the voice telephone service connection module, the data service connection module and the cable modem connection module for enabling communication between each module;

15 a translation processor coupled to the communication bus for mapping between
16 communication protocols used by the HFC network and protocols used by the in-home
17 network and providing translated protocols with each transaction.

1 3. The arrangement as defined in claim 2 wherein the voice telephony service
2 connection module comprises a subscriber line interface circuit (SLIC) connection.

1 4. The arrangement as defined in claim 2 wherein the data service connection
2 module comprises an Ethernet connection.

1 5. The arrangement as defined in claim 2 wherein the in-home network protocol
is a wireless service protocol.

1 6. The arrangement as defined in claim 5 wherein the wireless protocol comprises
the Shared Wireless Access Protocol (SWAP).

1 7. The arrangement as defined in claim 2 wherein the in-home network protocol
comprises the Home Phoneline Network Alliance (HomePNA) protocol.

1 8. The arrangement as defined in claim 2 wherein the in-home network protocol
2 comprises the IEEE 1394 FireWire protocol.

1 9. The arrangement as defined in claim 2 wherein the home networking gateway
2 further comprises an internal battery power supply.

1 10. The arrangement as defined by claim 2 wherein the home networking
2 gateway further comprises a digital signal processor (DSP) coupled between the voice
3 connection module and the in-home network interface module to distributed voice signals
4 from said voice communication module into the in-home network through said in-home
5 network interface.

1 11. A method of providing network management for an in-home network of
2 communication devices coupled to an external HFC network through a home networking
3 gateway interface, the method comprising the steps of:

4 performing, using the home networking gateway, a device discovery process to
5 determine the plurality of devices and services existing in the in-home network; and
6 reporting the discovered information to an inventory management system.

1 12. The method of claim 11 for further providing a service requested by an in-
2 home device and the method comprising the additional steps of:

3 recognizing at the home networking gateway a service request from an in-home
network device;

 obtaining authorization for said service from a network management system;
 upon authorization, requesting said service from a call management system; and
 providing said service to the request device.

1 13. The method of claim 11 wherein the method is further utilized for bandwidth
2 allocation and comprises the additional steps of

3 recognizing at the home networking gateway a device request for bandwidth;
4 obtaining authorization bandwidth from a network management system;
5 upon authorization, requesting bandwidth from a cable modem termination
6 system (CMTS);
7 allocating the requested bandwidth on the HFC network; and
8 allocating, through the home networking gateway, the requested bandwidth on the
9 in-home network to the requesting device.
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